

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

18 OCT 2004

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
18 December 2003 (18.12.2003)

PCT

(10) International Publication Number
WO 03/103772 A1(51) International Patent Classification⁷:
A61K 31/4015, 31/41, C07D 403/12

A61P 27/06,

(74) Agent: OGILVY RENAULT; Attn: Murphy, Kevin,
P., Suite 1600, 1981 McGill College Avenue, Montreal,
Québec H3A 2Y3 (CA).

(21) International Application Number: PCT/CA03/00838

(22) International Filing Date: 2 June 2003 (02.06.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/386,499

6 June 2002 (06.06.2002)

US

60/460,134

3 April 2003 (03.04.2003)

US

(71) Applicant (for all designated States except US):
MERCK FROSST CANADA & CO. [CA/CA]; 16711
Trans-Canada Highway, Kirkland, Québec H9H 3L1 (CA).

(72) Inventors; and

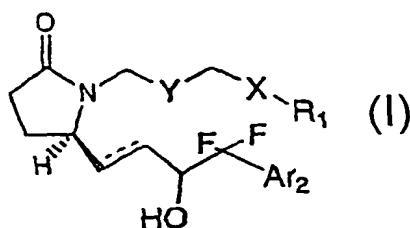
(75) Inventors/Applicants (for US only): **BILLOT, Xavier**
[FR/CA]; 16711 Trans-Canada Highway, Kirkland,
Québec H9H 3L1 (CA). **YOUNG, Robert, N.** [CA/CA];
16711 Trans-Canada Highway, Kirkland, Québec H9H
3L1 (CA). **HAN, Yongxin** [CA/CA]; 16711 Trans-Canada
Highway, Kirkland, Québec H9H 3L1 (CA).(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK,
LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX,
MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE,
SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
VC, VN, YU, ZA, ZM, ZW.(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: 1,5-DISTRIBUTED PYRROLID-2-ONE DERIVATIVES FOR USE AS EP4 RECEPTOR AGONISTS IN THE TREATMENT OF EYE DISEASES SUCH AS GLAUCOMA

(57) Abstract: This invention relates to potent selective agonists of the EP₄ subtype of prostaglandin E₂ receptors of formula (I), their use or a formulation thereof in the treatment of glaucoma and other conditions which are related to elevated intraocular pressure in the eye of the patient.